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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,784	11/05/2003	Daniel Mark Coffman	YOR920030465US1 (163-15)	7433
24336 7590 04/27/2007 KEUSEY, TUTUNJIAN & BITETTO, P.C. 20 CROSSWAYS PARK NORTH SUITE 210 WOODBURY, NY 11797			EXAMINER SIEDLER, DOROTHY S	
			ART UNIT 2626	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/27/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/701,784

Applicant(s)

COFFMAN ET AL.

Examiner

Dorothy Sarah Siedler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11-5-03</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This is the initial response to the application filed on November 5, 2003. Claims 1-29 are pending and are considered below.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11 and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 11 and 22 recite, "A program storage device readable by a machine, tangibly embodying a program of instructions", which the examiner considers as an attempt to abide by the interim guidelines as required for claiming functional descriptive material. However, the guidelines require program instructions stored or encoded on a *computer-readable medium*. Therefore the claim language of a "storage device readable by machine" does not adhere to the requirements of the interim guidelines in reference to correct language when claiming functional descriptive material; thus claims 11 and 22 are considered non-statutory.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,7-12,18-23 and 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by ***Ramaswamy*** ("A Pervasive Conversational Interface for Information Interaction" Eurospeech 99).

As per claims 1 and 12, ***Ramaswamy*** discloses a method for recognizing commands in natural language, comprising the steps of: comparing an utterance to a plurality of handlers; identifying a winning handler for decoding a command from the utterance, wherein the winning handler is identified by arbitration between handlers (section 2.2 Conversational System, third and fourth paragraphs, *a mediator (arbitration) chooses the correct decision network (handler) to spawn based on a user's command and the input event source*); and decoding the command in accordance with the winning handler (section 2.2 Conversational System, fourth and fifth paragraphs, *the dialogue manager instantiates the chosen network, then the mediator chooses the appropriate device to present the response*).

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As per claim 23, **Ramaswamy** discloses a system for recognizing commands in natural language, comprising: a speech recognizer for decoding language and semantic information in utterances provided by a user (section 3.2 Speech Recognition and Figure 1); and a dialog manager comprising a hierarchical ordering of handlers, each handler being trained to be responsive to decoded utterances wherein the dialog manager manages arbitration between the handlers to determine a winning handler for an utterance and decodes the command in accordance with the winning handler (section 2.2 Conversational System and section 3.3 Natural Language Understanding, a *dialogue manager, based on decision networks, i.e. a hierarchical ordering of nodes, includes a mediator, that determines which decision network to spawn based on the user's command as specified by a formal language statement; the formal language statement is determined by the trained Natural Language Understanding unit*).

As per claims 7,18 and 27, **Ramaswamy** discloses the method as recited in claims 1,12 and 23, further comprising the step of maintaining a database of a history of handler selections (section 2.2 Conversational System, third paragraph, a *multimodal history captures all conversational and graphical system events, and keeps track of the system state*).

As per claims 8,19 and 28, **Ramaswamy** discloses the method as recited in claims 7,18 and 27, wherein the history includes time based ordering and ontological information

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(section 2.2 Conversational System, third paragraph, *a multimodal history captures all conversational and graphical system events, and keeps track of the system state*).

As per claims 9,20 and 29, **Ramaswamy** discloses the method as recited in claims 7,18 and 27, further comprising the step of resolving unresolved utterances by employing information stored in the database (section 2.2 Conversational System, sixth paragraph, *the multimodal history is used for disambiguation and reference resolution*).

As per claims 10 and 21, **Ramaswamy** discloses the method as recited in claims 1 and 12, wherein the step of decoding further includes executing a command in accordance with the winning handler, responsive to the utterance (section 2.2 Conversational System, fourth and fifth paragraphs, *the dialogue manager instantiates the chosen network, then the mediator chooses the appropriate device to present the response*).

As per claims 11 and 22, **Ramaswamy** discloses a program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method step for recognizing commands in natural language as recited in claims 1 and 12 (Abstract, *the system disclosed is used to provide access to multiple desktop applications, therefore it is inherent that it is software running on a computer*).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, 13-17 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Ramaswamy*** in view of ***Amirghodsi*** (4,974,191).

As per claims 2, 13 and 24, ***Ramaswamy*** discloses the method as recited in claims 1, 12 and 23, however ***Ramaswamy*** does not disclose wherein the step of identifying includes resolving ties in the arbitration between handlers by employing a tie-breaker handler. ***Amirghodsi*** discloses a system that classifies objects of speech into classes and resolves a deadlock or tie when it occurs (column 39 lines 11-15). ***Amirghodsi*** discloses a natural language translation system for a human/computer interface (column 2 lines 15-18), and is therefore analogous art.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to resolve ties in the arbitration between handlers by employing a tie-breaker handler in ***Ramaswamy***, since it would enable the system to continue processing after reaching a deadlock, as indicated in ***Amirghodsi*** (column 39 lines 11-15), thus providing quick resolution of a tie, and increased processing speed.

As per claims 3,14 and 25 **Ramaswamy** discloses the method as recited in claim 2, however **Ramaswamy** does not disclose wherein the tie-breaker handler poses a question to a user to determine the winning handler. **Amirghodsi** discloses a system that classifies objects of speech into classes and resolves a deadlock or tie when it occurs (column 39 lines 11-15), as well as a system that uses questions addressed to the user to gain further information in order to process a user request (column 7 lines 44-55 and 59-62). **Amirghodsi** discloses a natural language translation system for a human/computer interface (column 2 lines 15-18), and is therefore analogous art.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a tie-breaker handler pose a question to a user to determine the winning handler in **Ramaswamy**, since it would enable the system to gather further information, as indicated in **Amirghodsi** (column 7 lines 59-62), which would then be used to determine the correct handler, thus providing quick resolution of a tie, and increased processing speed.

As per claims 4,5,15,16, and 26, **Ramaswamy** discloses the method as recited in claims 1, 12 and 24 but **Ramaswamy** does not explicitly disclose wherein the handlers include an enabled or a disabled state and further comprising the step of presenting the utterance to enabled handlers, and further comprising the step of submitting the utterance to disabled container handlers to ensure submission of the utterance to child



handlers. However, **Ramaswamy** does disclose a dialogue manager based on decision networks, including a mediator, which determines a decision network to spawn based on the user's command (section 2.2 Conversational system, third and fourth paragraphs). Determining a decision network to spawn requires processing time and resources, and could be a lengthy, time consuming process if the search space is large. Limiting the number of possible handlers to enabled handlers and disabled handlers with child handlers reduces the search space considerably.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have handlers include an enabled or a disabled state and present the utterance to enabled handlers and disabled container handlers to ensure submission of the utterance to child handlers in **Ramaswamy**, since it would enable the system to reduce the search space, thus saving processing time and resources, while maintaining a robust system for correct recognition of a user command.

As per claims 6 and 17, **Ramaswamy** discloses the method as recited in claims 1 and 12, however **Ramaswamy** does not disclose further comprising the step of submitting unresolved utterances to winning handlers of a previous utterance for decoding.

**Amirghodsi** discloses a system that classifies objects of speech into classes and resolves a deadlock or tie when it occurs by assigning the last class reference to the remaining objects (column 39 lines 11-15). **Amirghodsi** discloses a natural language translation system for a human/computer interface (column 2 lines 15-18).

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Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to submit unresolved utterances to winning handlers of a previous utterance for decoding in **Ramaswamy**, since it would enable the system to continue processing in the case of a deadlock or tie, as indicated in **Amirghodsi** (column 39 lines 11-15).

### **Conclusion**

The prior art made of record on the PTO-892 form and not relied upon is considered pertinent to applicant's disclosure.

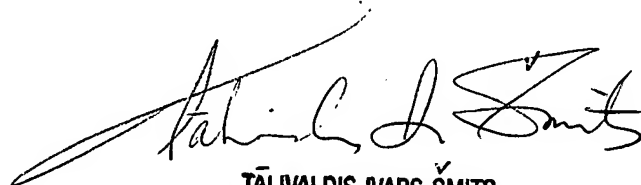
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dorothy Sarah Siedler whose telephone number is 571-270-1067. The examiner can normally be reached on Mon-Thur 9:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSS



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PRIMARY EXAMINER